

Abstract of the Disclosure

5 An optical switching system includes multiple layers for switching optical signals. A first layer is for switching optical channels. A second layer is for switching groups of optical channels. A third layer is for switching composite optical signals. Between layers demultiplexing and multiplexing of signals allows switching within a single switch core at any level from fiber to wavelength group to optical wavelengths. Optical amplifiers between layers compensate for losses within the switch and within demultiplexers and multiplexers. One configuration provided additional multiplexing and demultiplexing to allow direct connection between the first and third layers. 10 Another configuration shares optical switching matrices between the first and third layers.

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